

We Claim:

1. In a method for vapor sterilization of an article having a narrow lumen therein which comprises disposing the article within a chamber, evacuating the chamber, and introducing a first supply of antimicrobial vapor into said chamber to contact and sterilize said article, the improvement comprising connecting a vessel containing a second supply of antimicrobial solution to the lumen of said article prior to disposing the article in the chamber whereby antimicrobial vapor derived from said second supply of antimicrobial solution is introduced directly into said lumen of said article.
2. The method of claim 1 wherein said antimicrobial is hydrogen peroxide.
3. The method of claim 2 wherein said antimicrobial solution is a 20 to 50 percent by weight aqueous solution of hydrogen peroxide.
4. The method of claim 1 wherein said vessel is connected to the lumen of said article by means of an expandable flexible sheath.
5. The method of claim 1 wherein said article and said vessel containing the second supply of antimicrobial solution attached thereto is packaged in an air permeable, bacterial barrier material prior to being disposed in the chamber.
6. The method of claim 5 wherein said article is a medical instrument.

7. The method of claim 6 wherein said medical instrument is an endoscope.

8. The method of claim 5 wherein said article is tubing.

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9. The method of claim 1 wherein said chamber is evacuated to a pressure of less than about 50 torr.

10. The method of claim 1 wherein said chamber is maintained at a pressure of less than 20 torr while said antimicrobial vapor is in contact with said article.

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11. A device for delivering antimicrobial vapor to the lumen of an article during solution vapor sterilization, said device comprising a vessel for containing an antimicrobial solution and having an opening therein, and means for connecting said opening of said vessel to said lumen.

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12. The device of claim 11 wherein said means for connecting said vessel to said lumen comprises an expandable tubular sheath, one end of which is securely attached about the opening of the vessel, and the other end of which comprises an elastic ring for releasable attachment about the end of the article.

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13. The device of claim 12 wherein the sheath is securely attached to the vessel by means of a second elastic ring at said one end of the sheath disposed over a lip about the opening of the vessel.

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14. The device of claim 11 wherein said means for connecting said vessel to said lumen comprises a flexible bushing disposed within the opening of the vessel for receiving one end of said article.

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15. The device of claim 14 wherein the bushing comprises a plurality of inwardly extending plastic flaps.

16. The device of claim 11 wherein said vessel comprises a flexible pouch and said means for connecting said vessel to the end of the lumen comprises at least one drawstring disposed about the opening of said pouch.

17. The device of claim 11 wherein said vessel includes a second opening for releasably attaching a cartridge containing a measured aliquot of antimicrobial solution.

18. The device of claim 11 wherein said vessel contains a porous absorbent substrate for containing said antimicrobial solution.

19. The device of claim 11 wherein the vessel has means for attaching a removable closure cap to the opening thereof.

20. A device for enhancing solution vapor sterilization of the lumen of a medical instrument, said device comprising a vessel for containing an antimicrobial solution, and means for connecting said vessel to the end of said lumen to provide antimicrobial vapor directly to the lumen during the solution vapor sterilization.

21. The device of claim 20 wherein said means for connecting said vessel to the end of the lumen comprises an expandable sheath, one end of which is securely attached about an opening in the vessel, and the other end of which comprises an elastic ring for releasable attachment about the end of the instrument including the lumen.

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22. The device of claim ~~21~~ wherein the sheath is firmly attached to the vessel by means of a second elastic ring at said one end of the sheath disposed over a lip about the opening of the vessel.

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